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ABSTRACT

A preliminary study examined the interrater reliability, factor structure, and convergent validity of the Haak Sentence Completion (in which the respondent is given a sentence stem and asked to provide the remainder of the sentence) using a three-point scoring system. The subjects were 100 boys ranging in age from 6 to 11 years who were randomly selected from a roster of students who had been referred for evaluation of emotional disturbance. All the boys came from three elementary schools within a suburban school district; all the boys were white and upper-middle class. Subjects were administered the Haak Sentence Completion while their parents were given the Child Behavior Checklist (CBCL) to fill out and return. The scores from the parent CBCL (the parents' report of a child's problem behaviors) were then correlated with the item total score and factors of the Haak (the child's self-report of perceptions). Results revealed that the quantification of sentence completion tests is feasible and useful. The findings suggest that the quantification of such measures makes them useful as research tools to generate self-report data and to investigate hypotheses related to factors that contribute to emotional disturbance. Data generated from such measures can be used for screening, placement, and intervention with children suspected of being emotionally disturbed. Further psychometric investigation of sentence completion techniques in support of this preliminary study appear to be called for. (Two tables of data are included; 19 references are attached.) (KEH)

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Quantification of
The Haak Sentence Completion

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Abstract

This study examines the interrater reliability, factor structure and convergent validity of the Haak Sentence Completion using a three-point scoring system. The subjects selected were 100 boys ages 6-12 who were referred for evaluation of emotional disturbance in a public school setting. All children had been administered the Haak Sentence Completion and the parent version of the Child Behavior Checklist was obtained as part of the assessment process. The Haak Sentence Completion was scored by three graduate students in educational psychology. Scoring by the raters produced a set of items with adequate interrater reliability and a factor analysis yielded three factors with adequate internal reliability. Convergent validity was not demonstrated between the Child Behavior Checklist and the Haak Sentence Completion. The results are discussed in terms of the literature reviewed, practical implications and the need for future research.

A Psychometric Evaluation of
The Haak Sentence Completion

The assessment of emotional disturbance in school age children is an area that requires further research and refinement. The need for methods and measures to evaluate the emotional functioning of children has increased as a result of Public Law 94-142 (Federal Register, 1977). According to Public Law 94-142 any child who is suspected of having a handicapping condition that would interfere with the ability to receive an education is entitled to receive a comprehensive evaluation by a multidisciplinary team.

The assessment of other handicapping conditions such as a learning disability, relies on a discrepancy between ability and achievement as measured by such tests as the Wechsler Intelligence Scale for Children-Revised and the Kaufman Test of Educational Achievement. These tests as well as similar measures have demonstrated adequate reliability and validity for the evaluation and diagnosis of learning problems.

Unfortunately, the assessment of emotional disturbance does not have such well established procedures or highly reliable and valid instruments to make such determinations. Given the variety of theories and practices regarding the assessment of emotional disturbance, the determination of emotional disturbance becomes a matter of professional judgment (Wood, Leninger & Barlow, 1982).

Projective Techniques

While projective techniques are frequently criticized for their lack of psychometric vigor, they appear to be popular for the assessment of emotional disturbance.

In a survey of school psychologists, Goh and Fuller (1983) found that projective techniques were the most frequently used techniques for personality assessment. The authors note, "Within the projective assessment of personality, the Bender, sentence completion blanks, and the House-Tree-Person were the three most commonly used instruments" (p. 241). Other surveys (Prout, 1983; Vukovich, 1983) have noted similar patterns of projective test usage. It appears that school psychologists rely more on projective drawings and sentence completion tasks than on more traditional projective techniques such as the Rorschach and TAT. Prout (1983) notes that behavioral observations, clinical interviews, and behavior rating scales are becoming more popular in both training and practice.

The current state of affairs would suggest that the development of projective techniques that possess (a) adequate psychometric properties, (b) are not difficult to administer, (c) can be scored quickly, and (d) do not require complex interpretations would make an important contribution to the assessment of the child referred for an evaluation of emotional disturbance.

Sentence Completion Techniques

Sentence completion techniques are considered a semi-structured form of projective assessment. In a sentence completion test the respondent is given a sentence stem and asked to provide the remainder of the sentence. The sentence stem provides structure by restricting the content area that the subject can respond to while the nature of the response is defined according to the subject's perceptions. The content is clearer in a sentence completion task than it would be in a less structured projective such as the Rorschach. The clarity of the content in the sentence completion makes it less projective and more similar to a form of clinical interview. Child interviewing, whether structured or unstructured, plays an important role in assessment (Hughes, 1988; Witt, et al., 1988). The development of sentence completion techniques for children that possess adequate psychometric properties is a needed area of research. Such research not only facilitates the research and clinical use of sentence completion techniques, but can also add data on the utility of self report measures in general.

A sentence completion technique developed for use with children is the Haak Sentence Completion (Haak). The Haak was developed by Ruth A. Haak, Ph.D. as a screening measure to differentiate between emotionally disturbed and learning disabled children. Haak hypothesized that emotional disturbance could be characterized by deficits in coping and adjustment as well as

disturbances in interpersonal relationships. On the basis of this, stems were developed to assess the child's perceptions of their coping ability and interpersonal relationships. Two versions of the Haak include the Haak Sentence Completion which contains 87 items and is designed for use with children from ages 5-12, and the Haak Sentence Completion - Secondary Form used with teenagers from ages 13-18. The primary form is administered by having the examiner read the stem and record the child's response. The secondary form can be filled out by the teenager if he/she does not have an impairment in reading or writing. It usually takes 20 to 30 minutes to complete the Haak.

Responses to the Haak are subjectively interpreted to provide an evaluation of a child's self report of their thoughts, feelings, and behaviors across a variety of areas. There is no scoring system for the Haak and although an organizational form has been developed, it has not been empirically validated (R. Haak, personal communication, September 12, 1986).

Over the last decade interpretations based on responses to the Haak have been used as part of an assessment battery to determine the existence, severity and nature of emotional disturbance in children referred for special education services in a special education cooperative. Since there is no empirically derived scoring and classification system for the Haak, its application has been limited to those familiar with its

development and use.

Given the recent interest in child interview data and the need for psychometrically based child self report measures, this study investigated the interrater reliability, factor structure, and convergent validity of the Haak Sentence Completion.

Method

Subjects

The subjects were 100 boys ranging in age from 6 to 11 years who were randomly selected from a roster of students who had been referred for evaluation of emotional disturbance. All the boys came from three elementary schools within a suburban school district. All the boys were white and upper-middle class.

Instrumentation

The Haak Sentence Completion (Haak) contains 87 items and is administered by having the examiner read the incomplete sentence stem to the child and record the child's response. It is appropriate for ages 6 to 11. No empirical analysis of the Haak has been performed.

The Child Behavior Checklist (CBCL) is designed to measure the degree of behavioral disturbance in children aged 6 - 16 (Achenbach, 1985). Descriptions of social competence and behavior problems are presented in a rating format and forms are available for use by parents and teachers. The CBCL has demonstrated adequate interrater and test-retest reliability and significant content, construct, and criterion validity (Achenbach

& Edelbrock, 1983).

Procedure

Each child in the study had been referred for and received an evaluation for emotional disturbance. The Haak was administered as part of a comprehensive psychological evaluation. Testing was conducted by master's level school psychologists and was administered at the referred child's school. The Haak was administered by having the examiner state to the child, "I am going to read you a sentence that is not finished. I will read you the sentence and you finish it." The examiner would record the child's response verbatim on the record form.

Parent forms of the CBCL were given to the referred child's parents to fill out and return. The CBCL's were not always returned and as a result CBCL's were available for 83 out of the 100 boys.

The principal investigator of the study gathered the Haak's and parent CBCL's and identified each with a code number, age, and grade. A total problem behavior score was obtained for the parent CBCL by determining the mean value for its subscales. In addition, values for two broad factors (internalizing behaviors and externalizing behaviors) were calculated.

The Haak was quantified by using a three-point scoring system. Three raters (graduate students in educational psychology) were instructed to assign a #1 to a negative

response, a #2 to a neutral response, and a #3 to a positive response. Examples of scoring were reviewed by the raters when the scoring system was presented. In determining whether a response was negative, neutral, or positive, the raters were instructed to base their decision on what they believed was developmentally appropriate for the child's age.

Analysis of Data

To determine the extent of interrater reliability for the scoring of the items of the Haak 3 X 3 correlation matrices were conducted for each item. Correlations of .70 or greater for all combinations of raters for each item was used to determine which items demonstrated adequate interrater reliability. Following this, a series of factor analyses were performed to define empirically derived factors for the items of the Haak that had adequate interrater reliabilities. Scales were constructed using items that had loadings of .50 or greater on a given factor. Scales with alpha values of .75 or greater were considered to have adequate internal reliability.

Finally, the scores from the parent CBCL's were correlated with the item total score and factors of the Haak.

Results

Correlation matrices for the 87 items demonstrated adequate interrater reliability for 42 of the items. A principal component analysis of the 42 items indicated that five principal components could be produced that accounted for 96.8% of the

variance. A promax rotation was used to produce an orthogonal varimax prerotation followed by an oblique rotation. Factor I contained items related to perceptions of self and others and was labeled Perception of Self and Others (PSO). Factor II contained items that referred to school performance and self evaluation and was labeled School Performance (SP). Factor III included items related to perceptions of authority figures and was titled Perceptions of Authority (PA). The items comprising Factor IV included stems that reflected perceptions of achievement. This factor was labeled Achievement (A). Finally, Factor V contained items related to perceptions of belonging and acceptance and was categorized as Belonging and Acceptance (BA).

Results of the reliability analysis for the five factors is presented in Table 1.

Insert Table 1 here

Factor I (PSO), Factor II (SP) and Factor IV (A) each had adequate internal reliability (.77, .76 and .76 respectively). Table 2 shows the results of the intercorrelation analyses between the Haak and the CBCL.

Insert Table 2 here

Correlation analyses using the item total score, Factor I (PSO), Factor II (SP), and Factor IV (A) showed low correlations

with the total problem behavior score, or the internalizing factors of the parent CBCL.

A small but significant correlation ($r = -.231, p < .05$) was found between Factor I (PSO) and the externalizing factor of the parent CBCL. When children reported more negative perceptions of self and others, parents reported an increase in externalizing problem behaviors and vice-versa. Overall, the Haak accounted for a small portion of the total variance.

Discussion

While further validation is necessary, the present data suggest that sentence completion techniques can be quantified and provide possible indicators of emotional disturbance.

In the present study a three point scoring system provided adequate interrater reliability for 42 of the 87 items on the Haak. While the 45 items that did not meet the criteria may provide useful clinical data about the child, they could not be uniformly analyzed on the basis of a negative, neutral, or positive ratings. For example, "My father thinks I am good," is more easily identified as a response reflecting a positive sense of self whereas the response, "I hope I never fail," is ambiguous. It may be that the child has a desire to achieve in which case the response could be viewed as neutral or positive. On the other hand, the response may reflect an undue fear of failure which would make it a negative response. Using a simple 3-point scale does not appear adequate to make such distinctions.

In order to do so it would be necessary to develop a more sophisticated scoring system such as those developed by Exner (1974) for the Rorschach, Murray (1971) for the Thematic Apperception Test, and Rotter and Rafferty (1950) for the Incomplete Sentence Test. In addition, it is important to note that the Haak was not developed for use with a scoring system. Therefore, it is not surprising that some items would fail to yield to an analysis on the basis of positive, negative, or neutral dimensions.

The Perception of Self and Others (PSO), the School Performance (SP) and the Achievement (A) factors provide an assessment of important developmental domains. Research has shown that children's perceptions and beliefs about their achievement potential affects their achievement performance (Kistner & Torgeson, 1987).

Maccoby (1984) has noted that children between the ages of 6 and 12 are able to view themselves and their psychological attributes from the perspective of an outsider. According to Maccoby, this age group also develops cooperative and problem solving interactions with authority figures and peers. In Erikson's (1968) psychosocial stages the age period from 6 to 12 is referred to as industry versus inferiority. During this period interactions with peers and teachers plays a significant role in the child's conception of competence and self worth. Additional research should be conducted to determine how well

these factors discriminate between emotionally disturbed and control groups.

Convergent validity was not demonstrated by correlations between scores on the Haak and the parent form of the Child Behavior Checklist (CBCL). Convergent validity between the Haak and other projective measures was not possible since no other quantified projective measures were used in the evaluation of the boys in the sample.

While there was no significant relationship between the Haak and the CBCL a number of points need to be addressed. First, the CBCL is an instrument that has normative data that is well founded and has adequately established reliability and validity. This study was the first attempt to quantify the Haak. It is also important to consider the nature of the instruments. The CBCL is designed to be a parent or teacher report of a child's problem behaviors, while the Haak represents a child's self report of perceptions of themselves and their environment. In addition, children may be more accurate than their parents in describing their internal states and subjective experiences (Kazdin, 1987).

Examination of the relationship between a self-report measure like the Haak and a behavior rating scale such as the CBCL is important for a variety of reasons. Such an examination supports the use of a multi-trait, multi-method assessment approach (Gresham, 1985), and provides support for the use of

empirically based self-report measures. This type of research also contributes to our understanding of the relation between self-report data and real-life behavior, and also points out the need for continued investigation in this area (Gittelman, 1980). Finally, the combination of self-report techniques and behavior rating scales can provide the clinician with different sources of clinical data. This would suggest that the clinician could quickly and easily generate meaningful hypotheses regarding the emotional adjustment of school age boys. For example, analysis of the data from the Haak and the CBCL can provide a measure of the child's feelings about him/her self and others, perceptions of competence and problem solving skills, and descriptive statements of problem behaviors as well as direct clinical observations.

Further research is necessary to determine the research and/or clinical utility of the Haak and the Factors derived from this study. Test-retest data would help clarify reliability issues, while comparisons between referred and non-referred samples would aid in establishing criterion-related validity.

Cross validation studies would be beneficial in the acquisition of normative data. Such data would be of use in developing standard scores so that comparison among groups could be used and the applications of the Haak sentence completion broadened.

Development of norms for females would also be useful.

While the majority of referrals for emotional disturbance in the school setting are males (Miller & Epstein, 1979), the development of norms for females would expand the clinician's assessment ability.

Future research on the Haak could focus on the development of additional items that had sound psychometric properties and focused on other content areas such as family relations and psychosomatic concerns. Variations in scoring methods such as using a 5-point scale may enhance the ability to discriminate between and classify clinical groups.

The results of this study indicate that the quantification of sentence completion tests is feasible and useful. The quantification of such measures makes them useful as research tools to generate self-report data and to investigate hypothesis related to factors that contribute to emotional disturbance. As a self-report measure, sentence completion techniques can be used in combination with other measures to contribute data to the identification of emotional disturbance. Data generated from such measures can be used for screening, placement, and intervention with children suspected of being emotionally disturbed. While this is a preliminary study it suggests that the psychometric investigation of sentence completion techniques is a direction worth following.

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Table 1

Factor Alpha Values

Factor	Number of items	<u>Alpha</u>
I (PS0)	8	.77
II (SP)	7	.76
III (PA)	5	.67
IV (A)	7	.76
V (BA)	4	.16

N = 100

Table 2

Correlates of Parent CBCL

Haak variables	<u>Child Behavior Checklist</u>		
	Total problem behaviors	Internalizing	Externalizing
Factor I (PSO)	-.173	-.209	-.231*
Factor II (SP)	-.055	-.136	-.006
Factor IV (A)	.035	.058	-.119
Item total score	-.121	-.165	-.171

N= 83

* significant at the .05 level of confidence